

## NDE Big Data Framework, Phase I

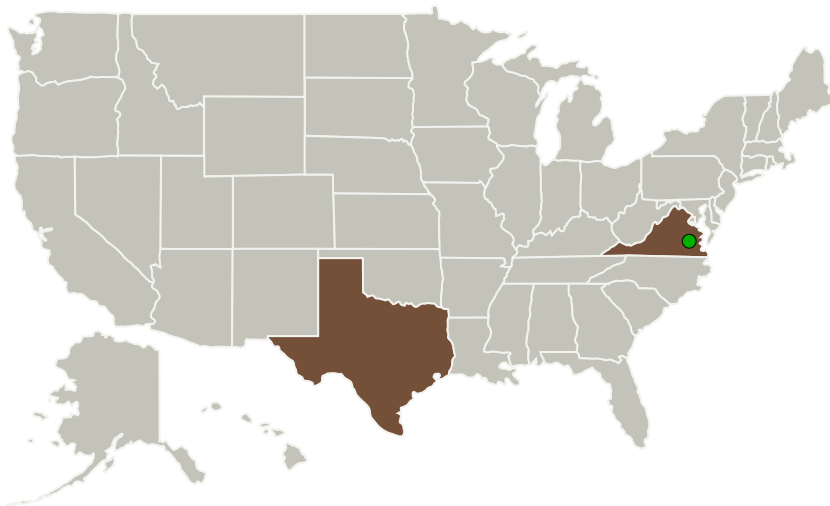
Completed Technology Project (2015 - 2015)



## Project Introduction

NDE data has become "Big Data", and is overwhelming the abilities of NDE technicians and commercially available tools to deal with it. In the current state of the art in industrial practice, there is no integration of the NDE data into design data, NDE models, and structural integrity models for a holistic structural capability assessment. Our proposal responds to these issues described in the subtopic H13.01, Advanced NDE Modeling and Analysis. TRI/Austin, Iowa State University's Center for Nondestructive Evaluation (CNDE), and Computational Tools are teaming to develop a coherent set of tools for NDE and SHM data: the NDEToolbox™. The significance of the innovations are that these sets of tools enable "big data" methods to be applied to NDE, and to integrate NDE within the digital thread of design, manufacturing, and operation of large composite structures for space and aerospace applications.

## Primary U.S. Work Locations and Key Partners



NDE Big Data Framework, Phase I

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## NDE Big Data Framework, Phase I

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Organizations Performing Work	Role	Type	Location
Texas Research International, Inc.	Lead Organization	Industry	Texas
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia
Texas Research Institute Austin, Inc.	Supporting Organization	Industry	Austin, Texas

## Primary U.S. Work Locations

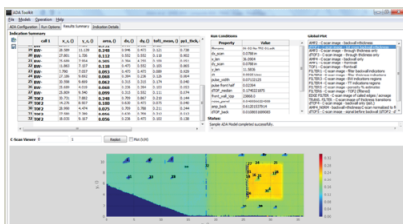
Texas	Virginia
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## Project Transitions

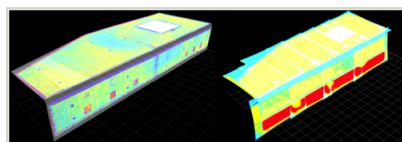
**June 2015:** Project Start**December 2015:** Closed out**Closeout Documentation:**

- Final Summary Chart(<https://techport.nasa.gov/file/139161>)

## Images

**Briefing Chart**

NDE Big Data Framework Briefing Chart  
(<https://techport.nasa.gov/image/130467>)

**Final Summary Chart Image**

NDE Big Data Framework, Phase I  
Project Image  
(<https://techport.nasa.gov/image/133265>)

## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Organization:**

Texas Research International, Inc.

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

**Principal Investigator:**

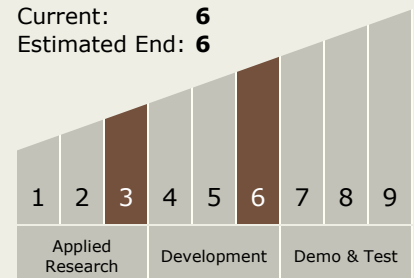
David S Forsyth

## Technology Maturity (TRL)

Start: **3**

Current: **6**

Estimated End: **6**



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### Technology Areas

#### Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - └ TX11.4 Information Processing
    - └ TX11.4.1 Science, Engineering, and Mission Data Lifecycle

### Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System